



Tuesday, December 10, 2019

Attn: Ms. Jennifer Atkins
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Project ID: GULF CHELSEA TERMINAL
SDG ID: GCE67586
Sample ID#s: CE67586 - CE67587

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

Enclosed are revised Analysis Report pages. Please replace and discard the original pages. If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Phyllis Shiller".

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B

NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



SDG Comments

December 10, 2019

SDG I.D.: GCE67586

Version 2: VOC and SVOC compound list revised & Collection time changed



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Sample Id Cross Reference

December 10, 2019

SDG I.D.: GCE67586

Project ID: GULF CHELSEA TERMINAL

| Client Id | Lab Id | Matrix |
|-------------|---------|--------------|
| OUTFALL 003 | CE67586 | SW DISCHARGE |
| TRIP BLANK | CE67587 | SW DISCHARGE |



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Analysis Report

December 10, 2019

FOR: Attn: Ms. Jennifer Atkins
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information

Matrix: SW DISCHARGE
Location Code: AECOME-GULF
Rush Request: 48 Hour
P.O.#:

Custody Information

Collected by:
Received by: CP
Analyzed by: see "By" below

| <u>Date</u> | <u>Time</u> |
|-------------|-------------|
| 11/23/19 | 16:30 |
| 11/25/19 | 18:10 |

Laboratory Data

SDG ID: GCE67586
Phoenix ID: CE67586

Project ID: GULF CHELSEA TERMINAL
Client ID: OUTFALL 003

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference |
|-----------------------------|-----------|------------|----------|----------|----------------|---------|---------------|
| Oil and Grease by EPA 1664A | < 1.4 | 1.4 | mg/L | 1 | 11/27/19 | MSF | EPA 1664 |
| pH | 7.54 | 1.00 | pH Units | 1 | 11/25/19 21:38 | AP/KDB | SM4500-H B-11 |
| Total Suspended Solids | 80 | 5.0 | mg/L | 1 | 11/26/19 | BJA/ARG | SM 2540D-11 |
| Semi-Volatile Extraction | Completed | | | | 11/26/19 | AT/S/AK | E625.1 |

Aromatic Volatiles w/Napthalene

| | | | | | | | |
|------------|----|-----|------|---|----------|----|--------|
| Benzene | ND | 1.0 | ug/L | 1 | 12/06/19 | MH | E624.1 |
| Napthalene | ND | 1.0 | ug/L | 1 | 12/06/19 | MH | E624.1 |

QA/QC Surrogates

| | | | | | | | |
|--------------------------|-----|--|---|---|----------|----|------------|
| % 1,2-dichlorobenzene-d4 | 97 | | % | 1 | 12/06/19 | MH | 70 - 130 % |
| % Dibromofluoromethane | 101 | | % | 1 | 12/06/19 | MH | 70 - 130 % |

Semivolatiles by SIM, PAH

| | | | | | | | |
|----------------|----|------|------|---|----------|----|--------|
| Benzo(a)pyrene | ND | 0.10 | ug/L | 1 | 11/27/19 | PS | E625.1 |
| Napthalene | ND | 0.50 | ug/L | 1 | 11/27/19 | PS | E625.1 |

QA/QC Surrogates

| | | | | | | | |
|--------------------|----|--|---|---|----------|----|------------|
| % 2-Fluorobiphenyl | 65 | | % | 1 | 11/27/19 | PS | 40 - 140 % |
| % Nitrobenzene-d5 | 74 | | % | 1 | 11/27/19 | PS | 40 - 140 % |
| % Terphenyl-d14 | 16 | | % | 1 | 11/27/19 | PS | 40 - 140 % |

3

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference |
|-----------|--------|------------|-------|----------|-----------|----|-----------|
|-----------|--------|------------|-------|----------|-----------|----|-----------|

3 = This parameter exceeds laboratory specified limits.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

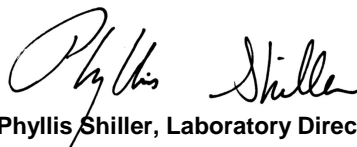
Comments:

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

Semi-Volatile Comment:

Poor surrogate recovery was observed for one acid and/or one base surrogate. The other surrogates associated with this sample were within QA/QC criteria. No significant bias suspected.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

December 10, 2019

Reviewed and Released by: Sarah Bell, Project Manager



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Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

December 10, 2019

FOR: Attn: Ms. Jennifer Atkins
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information

Matrix: SW DISCHARGE
Location Code: AECOME-GULF
Rush Request: 48 Hour
P.O.#:

Custody Information

Collected by:
Received by: CP
Analyzed by: see "By" below

Date

11/23/19

Time

11/25/19 18:10

Laboratory Data

SDG ID: GCE67586
Phoenix ID: CE67587

Project ID: GULF CHELSEA TERMINAL
Client ID: TRIP BLANK

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference |
|---|--------|------------|-------|----------|-----------|----|------------|
| <u>Aromatic Volatiles w/Napthalene</u> | | | | | | | |
| Benzene | ND | 1.0 | ug/L | 1 | 12/06/19 | MH | E624.1 |
| Napthalene | ND | 1.0 | ug/L | 1 | 12/06/19 | MH | E624.1 |
| <u>QA/QC Surrogates</u> | | | | | | | |
| % 1,2-dichlorobenzene-d4 | 100 | | % | 1 | 12/06/19 | MH | 70 - 130 % |
| % Dibromofluoromethane | 102 | | % | 1 | 12/06/19 | MH | 70 - 130 % |

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

TRIP BLANK INCLUDED.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
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Phyllis Shiller, Laboratory Director

December 10, 2019

Reviewed and Released by: Sarah Bell, Project Manager



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QA/QC Report

December 10, 2019

QA/QC Data

SDG I.D.: GCE67586

| Parameter | Blank | Blk RL | Sample Result | Dup Result | Dup RPD | LCS % | LCSD % | LCS RPD | MS % | MSD % | MS RPD | % Rec Limits | % RPD Limits |
|--|-------|-----------|------------------|---------------|------------|----------|-----------|------------|---------|----------|-----------|--------------------|--------------------|
| QA/QC Batch 508109 (mg/L), QC Sample No: CE65538 (CE67586) | | | | | | | | | | | | | |
| Oil and Grease by EPA 1664A | BRL | 1.4 | | | | 96.0 | 97.0 | 1.0 | | | | 85 - 115 | 20 |
| Comment: | | | | | | | | | | | | | |
| Additional: MS acceptance range 75-125%. | | | | | | | | | | | | | |
| QA/QC Batch 507886 (mg/L), QC Sample No: CE66492 (CE67586) | | | | | | | | | | | | | |
| Total Suspended Solids | BRL | 2.5 | 13 | 13 | NC | 94.0 | | | | | | 85 - 115 | |
| QA/QC Batch 507954 (pH), QC Sample No: CE67109 (CE67586) | | | | | | | | | | | | | |
| pH | | | 6.68 | 6.68 | 0 | 96.7 | | | | | | 85 - 115 | 20 |
| Comment: | | | | | | | | | | | | | |
| Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%. | | | | | | | | | | | | | |



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QA/QC Report

December 10, 2019

QA/QC Data

SDG I.D.: GCE67586

| Parameter | Blank | Blk RL | LCS % | LCSD % | LCS RPD | MS % | MSD % | MS RPD | % Rec Limits | % RPD Limits |
|--|-------|-----------|----------|-----------|------------|---------|----------|-----------|--------------------|--------------------|
| QA/QC Batch 507982 (ug/L), QC Sample No: CE66185 (CE67586) | | | | | | | | | | |
| <u>Semivolatiles by SIM, PAH</u> | | | | | | | | | | |
| Benzo(a)pyrene | ND | 0.02 | 82 | 76 | 7.6 | | | | 40 - 140 | 20 |
| Naphthalene | ND | 0.50 | 73 | 70 | 4.2 | | | | 40 - 140 | 20 |
| % 2-Fluorobiphenyl | 106 | % | 71 | 70 | 1.4 | | | | 40 - 140 | 20 |
| % Nitrobenzene-d5 | 66 | % | 66 | 63 | 4.7 | | | | 40 - 140 | 20 |
| % Terphenyl-d14 | 68 | % | 69 | 64 | 7.5 | | | | 40 - 140 | 20 |

Comment:

Additional 8270 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 10-110%, for soils 30-130%)

QA/QC Batch 509334 (ug/L), QC Sample No: CE80976 (CE67586, CE67587)

Volatiles


| | | | | | | | | | | |
|--------------------------|-----|------|-----|----|-----|-----|----|-----|----------|----|
| Benzene | ND | 0.70 | 89 | 93 | 4.4 | 87 | 90 | 3.4 | 65 - 135 | 20 |
| Naphthalene | ND | 1.0 | 89 | 90 | 1.1 | 78 | 79 | 1.3 | 70 - 130 | 30 |
| % 1,2-dichlorobenzene-d4 | 100 | % | 100 | 99 | 1.0 | 100 | 99 | 1.0 | 70 - 130 | 30 |
| % Dibromofluoromethane | 103 | % | 100 | 99 | 1.0 | 98 | 98 | 0.0 | 70 - 130 | 30 |

Comment:

A blank MS/MSD was analyzed with this batch.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference


Phyllis Shiller, Laboratory Director
December 10, 2019

Tuesday, December 10, 2019

Criteria: None

State: MA

Sample Criteria Exceedances Report

GCE67586 - AECOME-GULF

| SampNo | Acode | Phoenix Analyte | Criteria | Result | RL | Criteria | RL Criteria | Analysis Units |
|--------|-------|-----------------|----------|--------|----|----------|----------------|-------------------|
|--------|-------|-----------------|----------|--------|----|----------|----------------|-------------------|

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.



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Analysis Comments

December 10, 2019

SDG I.D.: GCE67586

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

Rebecca Merz

From: Rebecca Merz
Sent: Wednesday, December 04, 2019 4:05 PM
To: Bobbi Aloisa; Phyllis Shiller; Greg Lawrence
Subject: GCE67586, GULF CHELSEA TERMINAL -

Importance: High

Good afternoon,

The sampler filled out the COC manually vs. using the pre-filled COC's we created for this project. VOC's should have been \$AECOM624-MONTH which is Benzene and Naphthalene only by EPA 624. PAH's should have been #AECOM625PAH which is Benzo(a)pyrene and Naphthalene only by EPA 625SIM (Benzo(a)pyrene RL=01ug/L). Jen is speaking with the sampler to emphasize the importance of using the template COC's.

Can the sample be re-quantitated using the 8260/8270 data using the correct codes or would we need to re-run?

Also, we logged in the collection date as 11/25 and per the COC it should be 11/23. This will need to be corrected prior to revising the report.

Let me know what we can do.

Thank you,

Rebecca Merz

New England Sales Manager
Phoenix Environmental Laboratories, Inc.
860-212-9457 (mobile)
rebeccam@phoenixlabs.com
<https://www.phoenixlabs.com/>

From: Atkins, Jennifer [<mailto:Jennifer.Atkins@aecom.com>]
Sent: Wednesday, December 04, 2019 3:37 PM
To: Rebecca Merz
Subject: RE: Phoenix Labs - GCE67586, GULF CHELSEA TERMINAL - COC Acknowledgement
Importance: High

Hi Rebecca – I received the report for this sample (GCE67586) and it needs a couple revisions.

The date collected should be 11/23/2019 (as on the COC), not 11/25. The bottles were picked up on 11/25 (the bottles were picked up on 11/25).

The VOCs should have been analyzed by Method 624 not 8260, and report only benzene and naphthalene.

The SVOCs should have been analyzed by Method 625 not 8270, and report only benzo(a)pyrene and naphthalene. Benzo(a)pyrene has a required Minimum Level of 0.1 µg/L.

Can these samples be re-run by the correct methods or are they out of holding time?

Our sampler did not use the pre-filled in COC and didn't write in methods, but the COC did indicate it was the Gulf Oil Chelsea Terminal. And I did not look closely enough at the sample acknowledgement email. I will emphasize to him the need to use the template COC.

Thanks,
Jen

Jennifer Atkins
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From: Rebecca Merz <Rebeccam@phoenixlabs.com>
Sent: Tuesday, November 26, 2019 8:03 AM
To: Atkins, Jennifer <Jennifer.Atkins@aecom.com>
Subject: FW: Phoenix Labs - GCE67586, GULF CHELSEA TERMINAL - COC Acknowledgement

Hi Jen,

Just an FYI I asked to have all except TSS changed to standard TAT. Your note triggered the entire COC to be rushed on 48 hour TAT. I'll watch for the TSS result as discussed.

Thanks,

Rebecca Merz

New England Sales Manager
Phoenix Environmental Laboratories, Inc.
860-212-9457 (mobile)
rebeccam@phoenixlabs.com
<https://www.phoenixlabs.com/>

From: Client Services
Sent: Monday, November 25, 2019 7:50 PM
To: Rebecca Merz
Subject: Phoenix Labs - GCE67586, GULF CHELSEA TERMINAL - COC Acknowledgement

Rebecca,

Price Quote#: AE012319RM

Please email client services only if you Require a PO# on your Invoice, a PO# was not listed on the COC.

GCE67586 Criteria:
None.

Please email client services only if you require criteria different than what is listed.

Delivery group GCE67586 (GULF CHELSEA TERMINAL) has been logged in for the following samples:

| Phoenix Id | Client Id |
|------------|-------------|
| CE67586 | OUTFALL 003 |
| CE67587 | TRIP BLANK |

The samples in this delivery group were received at 2.1°C. (Note acceptance criteria for relevant matrices is above freezing up to 6°C)

If there are any questions regarding this submittal, please call Phoenix Client Services at extension 200.

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www.phoenixlabs.com

Please do not reply to this email.
cc'd: Jennifer.Atkins@aecom.com; rebeccam@phoenixlabs.com

Rebecca Merz

From: Rebecca Merz
Sent: Tuesday, December 10, 2019 10:47 AM
To: Sarah Bell; Greg Lawrence
Subject: FW: Phoenix Labs - GCE67586, GULF CHELSEA TERMINAL - COC Acknowledgement

Per client request I have modified the sampled time. Please issue a revised report, I will scan.

Thank you,

Rebecca

From: Atkins, Jennifer [<mailto:Jennifer.Atkins@aecom.com>]
Sent: Tuesday, December 10, 2019 10:38 AM
To: Rebecca Merz
Subject: RE: Phoenix Labs - GCE67586, GULF CHELSEA TERMINAL - COC Acknowledgement

Ok. For SDG GCE67586 for sample "Outfall 003" collected on 11/23/2019, please change the sample collection time to 16:30. This is based on a subsequent conversation with the field personnel who collected the sample.

Thanks,
Jen

Jennifer Atkins
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